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embodiments, the mechanical force is applied by ultrasonics, megasonics, electrostatics, or magnetics means.

5 In some embodiments, the method comprises harvesting or collecting the particles. In some embodiments, the harvesting or collecting of the particles comprises a process selected from the group consisting of scraping with a doctor blade, a brushing process, a dissolution process, an ultrasound process, a megasonics process, an electrostatic process, and a magnetic process.

10 In some embodiments, the presently disclosed subject matter describes a particle or plurality of particles formed by the methods described herein. In some embodiments, the plurality of particles comprises a plurality of monodisperse particles. In some embodiments, the particle or plurality of particles is selected from the group consisting of a semiconductor device, a crystal, a drug delivery vector, a gene delivery vector, a disease detecting
15 device, a disease locating device, a photovoltaic device, a porogen, a cosmetic, an electret, an additive, a catalyst, a sensor, a detoxifying agent, an abrasive, such as a CMP, a micro-electro-mechanical system (MEMS), a cellular scaffold, a taggant, a pharmaceutical agent, and a biomarker. In some embodiments, the particle or plurality of particles comprise a
20 freestanding structure.

Further, in some embodiments, the presently disclosed subject matter describes a method of fabricating isolated liquid objects, the method comprising (a) contacting a liquid material with the surface of a first low surface energy material; (b) contacting the surface of a second low surface
25 energy material with the liquid, wherein at least one of the surfaces of either the first or second low surface energy material is patterned; (c) sealing the surfaces of the first and the second low surface energy materials together; and (d) separating the two low surface energy materials to produce a replica pattern comprising liquid droplets.

30 In some embodiments, the liquid material comprises poly(ethylene glycol)-diacrylate. In some embodiments, the low surface energy material comprises perfluoropolyether-diacrylate. In some embodiments, a chemical process is used to seal the surfaces of the first and the second low surface

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50. The plurality of particles of Claim 49, wherein the plurality of particles comprises a plurality of monodisperse particles.

51. The particle or plurality of particles of Claim 49, wherein the particle or plurality of particles is selected from the group consisting of a semiconductor device, a crystal, a drug delivery vector, a gene delivery vector, a disease detecting device, a disease locating device, a photovoltaic device, a solar cell device, a porogen, a cosmetic, an electret, an additive, a catalyst, a sensor, a detoxifying agent, an abrasive, a micro-electro-mechanical system (MEMS), a cellular scaffold, a taggant, a pharmaceutical agent, and a biomarker.

52. The particle or plurality of particles of Claim 49, wherein the particle or plurality of particles comprise a freestanding structure.

53. The method of Claim 1, comprising forming a multi-dimensional structure, the method comprising:

- (a) providing a particle of Claim 49;
- (b) providing a second patterned template;
- (c) disposing a second liquid material in the second patterned template;
- (d) contacting the second patterned template with the particle of step (a); and
- (e) treating the second liquid material to form a multi-dimensional structure.

54. The method of Claim 1, comprising forming an interconnected structure.

55. The method of Claim 54, wherein the interconnected structure comprises a plurality of shape and size specific holes.

56. The method of Claim 55, wherein the interconnected structure comprises a membrane.

57. A method for delivering a therapeutic agent to a target, the method comprising:

- (a) providing a particle of Claim 49;
- (b) admixing the therapeutic agent with the particle; and